

BIOGRAPHICAL SKETCH

NAME: Daniel L. Costa

POSITION TITLE: Chief, Pulmonary Toxicology Branch

EDUCATION/TRAINING

Institution	Degree	Year	Field of Study
Providence College, Providence, RI	B.S.	1970	Biology/Chemistry
Harvard University, Boston, MA	M.S.	1973	Physiology
Rutgers University, New Brunswick, NJ	M.S.	1973	Environ. Sciences
Harvard University, Boston, MA	Sc.D.	1977	Physiology

PROFESSIONAL EXPERIENCE:

9/86-Present : Chief, Pulmonary Toxicology Branch, ETD, US EPA, Res. Tri. Pk., NC
9/94-Present: Adj. Prof., Env. Sci. & Eng., Univ. North Carolina, Chapel Hill, NC
1/02-11/02: Acting Nat'l PM Program Mgr., ORD, USEPA, Res. Tri. Pk., NC
6/85-9/86: Res. Physiologist, Inhalation Tox. Div., US EPA, Res. Tri. Pk., NC
6/77-6/85: Res. Assoc. Asst. (7/79), Assoc. (10/80), Sr Scien. (10/83), Med. Dept., Brookhaven, Upton, NY
6/81-6/85: Adj. Assist. Prof., SUNY-Stony Brook, Pharm. Dept., Stony Brook

PROFESSIONAL SOCIETIES:

American Assoc. for the Advan. of Science (AAAS)
Society of Toxicology (SOT)
American Thoracic Society (ATS)
N.C. Society of Toxicology (NCSOT)

SELECTED AWARDS AND HONORS:

Science and Technology Achievement Award: 1990, 1992, 1997, 1998, 1999, 2001
EPA Bronze Medal, 1995 (Fuel/Fuel Additive Advisory Committee); 1996 (AQCD/Ozone); 1997 (HAP's - Phenol)

INVITED LECTURES/SYMPOSIA (in last year):

9/02 UMBIFRO, Animal models of COPD - relevance and application Cologne, Germany
9/02 Eurotox, Particulate Matter - Causative components and potential mechanisms Budapest, Hungary
2/03 DOE, National Envir. Tech. Laboratory - PM sources linked to mortality Philadelphia, PA
9/02 Safety Pharmacol. Soc., Physiol. and pathophysiology of the respiratory system Philadelphia, PA
3/03 SOT, Approaches to the study of toxic air pollution mixtures Salt Lake City, Utah
3/03 4th PM Colloquium, Issues and approaches to assessing PM health centers Pittsburgh, PA

ASSISTANCE/LEADERSHIP PROVIDED TO THE SCIENTIFIC COMMUNITY:

ATS -Environmental and Occupational Health Assembly Long Range Plan.Com: 1992-1995; Chair 1994-1996;
Program Committee: 1990-1994; SOT -Inhalation Specialty Section. President: 1996-1999; ABT - Board of Directors (1990-1994); President 1994

Grant Reviewer : EPA Extramural Grants Program (current); NIEHS Small Grants (ad hoc 1996)

CIIT – 1995, 2002 Science Advisory Board

Journal Reviewer: Tox. Appl. Pharm., Tox. Sci., Inhal. Tox., Exp. Lung Res., Toxicol., Environ. Health, EHP.,

A. J. Resp., Crit. Care Med., Amer. J. Resp. Cell Mol. Biol., Amer. J. Physiol., J. Appl. Physiol.

Journal Editorial Boards: Cardiac Toxicology, International Journal of Hygiene and Environ. Health

ASSISTANCE/LEADERSHIP PROVIDED TO THE AGENCY:

Acting Nat'l PM Program Mgr. (2002); ORD PM Program Team (1996-present); Air Office (OAQPS) - advisor on NAAQS process for PM and Ozone; NCEA -advisor on risk assessment for Air Toxics

PUBLICATIONS (Most recent, out of a total of 129 publications):

1. Gardner SY, Lehmann JR, Costa DL. Oil fly ash-induced elevations of plasma fibrinogen in rats. Toxicol Sci 56(1):175-80, 2000.
2. Driscoll, KE, Costa, DL, Hatch, GE, Henderson, RF, Oberdorster, G, Salem, H and Schlesinger, RB. Intratracheal instillation as an exposure technique for the evaluation of respiratory tract toxicity: uses and limitations. Toxicol Sci 55:24-35 (2000).
3. Kodavanti, UP, Mebane, R, Ledbetter, A, Krantz, T, McGee, J, Jackson, M, Walsh, L, Hilliard, H, Chen B-Y, Richard, SJ, and Costa, DL. Variable pulmonary responses from exposure to concentrated ambient air particles in a rat model of

bronchitis. *Toxicol Sci*, 54:441-451, 2000.

4. Kodavanti, UP, Schladweiler, MCJ., Ledbetter, A, Watkinson, WP, Campen, MJ, Winsett, DW, Richards, JR, Crissman, K, Hatch, GE, and Costa, DL. The spontaneously hypertensive rat as a model of human cardiovascular disease: Evidence of exacerbated cardiopulmonary injury and oxidative stress from inhaled emission particulate matter. *Toxicol Appl Pharmacol* 164:250-263, 2000.
5. Watkinson, WP, Campen, MJ, Nolan, JP, Kodavanti, UP, Dreher, KL, Su, W-Y, Highfill, JW, and Costa, DL. Cardiovascular effects following exposure to particulate matter in healthy and cardiopulmonary-compromised rats. In: "Relationships between Acute and Chronic Effects of Air Pollution." ILSI Monographs (eds. U Mohr). pp.447-463, ILSI Press, Washington (2000).
6. Wiester, MJ, Winsett, DW, Richards, JR, Jackson, MC, Crissman, KM, and Costa, D.L. Ozone adaptation in mice and its association with ascorbic acid in the lung. *Inhal Toxicol*, 12:577-590 (2000).
7. Kodavanti UP, Jackson MC, Ledbetter, AD, Starcher, B, Evansky, PA, Harewood, A, Winsett, DW, and Costa, DL. The combination of elastase and sulfur dioxide exposure causes COPD-like lesions in the rat. *Chest*, 299S-302S, 2000..
8. Watkinson, WP, Campen, MJ, Dreher, KL, Su, W-Y, Kodavanti, UP, Highfill, JW, and Costa, DL. Thermoregulatory effects following exposure to particulate matter in healthy and cardiopulmonary-compromised rats. *J Thermal Biol* 25:131-137, 2000.
9. Kodavanti, UP, Schladweiler, MCJ, Richards, J R, and Costa, D L. Acute lung injury from intratracheal exposure to fugitive residual oil fly ash and its constituent metals in normo- and spontaneously hypertensive rats. *Inhal Toxicol* 13:37-54, 2001.
10. Kodavanti, UP and Costa DL. Rodent models of susceptibility: what is their place in inhalation toxicology? *Respiration Physiology*, 128:57-70, 2001.
11. Watkinson, W P Campen, MJ, Wichers, LB, Nolan, JP, Kodavanti, UP, and Costa, DL. Impact of toxic agents or diverse conditions on thermoregulatory function in awake rodents. *J Thermal Biol* 26:331-338, 2001.
12. Watkinson, WP, Campen, MJ, Nolan, JP and Costa, DL. Cardiovascular and systemic responses to inhaled pollutants in rodents: Effects of ozone and particulate matter. *Enviro. Health Perspect*, 109:539-546, 2001.
13. Costa, DL. Chapter 25: Air Pollutants. In Casarete and Doull's *Toxicology, The Basic Science of Poisons*, ed. Klaassen, CD. Sixth Edition. pp. 979-1012. McGraw-Hill, NY, 2001.
14. Wiester MJ, Winsett DW, Richards JH, Doerfler DL, and Costa DL. Partitioning of benzene in blood: influence of hemoglobin type in humans and animals. *Environ Health Perspect*, 110(3):255-61, 2002.
15. Kodavanti, UP Schladweiler, MC J, Ledbetter, AD, Watkinson, WP, Campen, MJ, Winsett, DW, Richards, JH, Crissman, KM, Hatch, GE, and Costa, DL. Temporal association between pulmonary and systemic effects of particulate matter in healthy and cardiovascular compromised rats. *J Tox Environ Health*, 65(20):1545-1570, 2002.
16. Savov, JD, Gavett, SH, Brass, DM, Costa, DL, Schwartz, DA. Neutrophils play a critical role in the development of LPS-Induced airway disease. *Am J Lung Cell Mol Physiol*, 283:L952-L962, 2002.
17. Hatch GE, Kodavanti U, Crissman K, Slade R, Costa DL. An "injury-time integral" model for extrapolating from acute to chronic effects of phosgene. *Toxicol Indust Health*, 17:285-293, 2002 (www.tihjournal.com).
18. Kodavanti, UP, Schladweiler, MCJ, Ledbetter AD, Hauser R, Cristiani DC, Samet JM, McGee J, Richards JR., and Costa DL. Pulmonary and systemic effects of zinc-containing emission particles in three rat strains: Multiple exposure scenarios. *Toxicol Sci*, 70:73-85 (2002).
19. Moyer CF, Kodavanti UR, Haseman JK, Maronpot RR, Costa DL, Nyska A. Systemic vascular disease in male B6CF1 mice to particulate matter by inhalation studies conducted by the National Toxicology Program. *Toxicol Pathol*, 30(4):427-434, 2002.
20. Costa DL and Kodavanti UP. Toxic responses of the lung to inhaled pollutants: Benefits and limitations of lung disease models. *Toxicol Let* (in press – 2002).
21. Kodavanti, UP, Moyer C, Ledbetter AD, Schladweiler, MCJ, , Costa DL, Hauser R, Cristiani DC, and Nyska A. Inhaled environmental combustion particles cause myocardial injury in the Wistar Kyoto rat. *Toxicol Sci* 71:237-245, 2003.
22. Costa DL. Inhalation Toxicology: Methods and Models Ch VII in *Lung Injury: Mechanisms, Pathophysiology, and Therapy*. Eds: RH Notter, JN Finkelstein, BA Holm (in press – 2003).
23. Pagan I, Costa DL, McGee JK, Richards JH, Dykstra MJ, and Dye JA. Metals mimic rat tracheal epithelial cell toxic responses induced by ambient particulate matter filter extracts. *J Toxicol Environ Health, Part A*, 66:1-26, 2003.
24. Watkinson WP Campen, MJ., Wichers LB, Nolan JP, and Costa DL Cardiac and thermoregulatory responses to inhaled pollutants in healthy and compromised rodents: Modulation via interaction with environmental factors. *Environ Res*, 92:35-47, 2003.